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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,870	02/26/2004	Tadashi Maegawa	P/1250-272	3619

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EXAMINER	
MACARTHUR, SYLVIA	

ART UNIT	PAPER NUMBER
1792	

MAIL DATE	DELIVERY MODE
10/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/789,870	MAEGAWA ET AL.	
	Examiner	Art Unit	
	Sylvia R. MacArthur	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/15/2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15 and 21-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15 and 21-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7/15/2008 been fully considered but are moot due to the amendment to claims 1,6, 11, and 21 wherein it is claimed that an organic solvent supply nozzle is included inside the second processing chamber, the organic solvent supply nozzle connected to an organic solvent supply source through pipe elements having control valve elements. This new limitation is suggested by the prior art recited by applicant in the IDS of 9/18/2008, namely Muraoke Yusuke (JP 07-142550).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

   (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-15 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa Koji (JP 11-268827) in view of Shinbara et al (US 5,485,644) ,Takano (US 6,828,235), and Muraoka Yusuke (JP 07-142550).

Regarding claims 1, 6, 11, 15, and 21: Koji teaches a substrate processing apparatus, comprising: a first processing chamber 18 capable of being isolated from an external atmosphere,

said first processing chamber including a liquid chemical processing part for performing liquid chemical process on substrates; a second processing chamber 19 capable of being isolated from an external atmosphere, said second processing chamber including a pure water processing part for performing pure water process on substrates, a first opening 22 provided to an upper portion of said first processing chamber, said first opening allowing substrates to pass therethrough; a first shutter member 26 for exposing and blocking said first opening;
a second opening 22 provided to an upper portion of said second processing chamber, said second opening allowing substrates to pass therethrough; a second shutter member 26 for exposing and blocking said second opening; a first transport mechanism 9 for transporting substrates, said first transport mechanism being movable between a position above said first processing chamber and a position above said second processing chamber; a second transport mechanism 32 for carrying substrates between said first and second processing chambers through said third opening; a third transport mechanism 31 for carrying substrates between said position above first processing chamber and said liquid chemical processing part through said first opening, said third transport mechanism also transferring substrates between said first and second transport mechanisms. Note that Koji further provides a lifter devices 31/61 as a structure to enable dipping.

4. Koji fails to teach:

1. A processing chamber wherein a dry processing part is included in the same processing chamber as the pure water processing part

2. An opening (third opening) between the first and second processing chambers

3. The third shutter for the third opening

4. A fourth transport mechanism

Shinbara et al teaches a substrate treating apparatus comprising a first processing chamber 3 and a second processing chamber 4 wherein chamber 4 comprising a rinse and drying process according to the abstract and cols. 3 and 4. Water is provided into this chamber by water supplying unit 8. Shinbara et al also features an opening and shutter (door) between each chamber. A plurality of multi-joint robots 7 is provided to transfer to the wafer between chambers. The motivation to integrate the rinse and drying processes into the same chamber is to increase throughout and eliminate inadequate drying to the transfer of the wafer out of the rinse chamber into a drying chamber. Furthermore, the motivation to provide openings between the first and second chambers is to provide ease of transfer of the wafer between chambers without exiting the overall enclosed processing environment. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to provide the drying part, opening/shutter, and transport mechanism of Shinbara et al in the apparatus of Koji.
The apparatus of Koji as modified by Shinbara fails to teach the continuous supply of an inert gas. Note that Shinbara teaches the use of nitrogen (an inert gas) to dry the wafer, but fails to teach a continuous supply.

5. The apparatus of Takano teaches a supply of nitrogen 5 that is continuously provided in the process chamber and the load lock chamber. See claims 1 and 9 and col. 6 lines 21-54 of Takano which provide the motivation for the continuous flow of nitrogen. According to Takano the nitrogen is continuously supplied to keep the chambers clean. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed

invention to provide for the continuous flow of an inert gas into the apparatus resulting from the modification of Koji with Shinbara to maintain the chambers in a clean state.

6. The combination of Koji (JP 11-268827) in view of Shinbara et al (US 5,485,644), and Takano fails to teach an organic solvent supply nozzle, organic supply source, and control valve elements as claimed. The prior art Muraoka Yusuke teaches the supply of pure water, steam of an organic solvent, and a drug solution, see [009] and [011].
7. The motivation to provide the supply source and auxiliary equipment to convey the flow is that the source allow for the treatment of the wafer to wash and dry with the desired fluids in the same chamber. Thus, it would have been obvious for one of ordinary skill at the time of the claimed invention to use the teachings of Yusuke to treat the wafers by washing and drying within the same chamber.

Regarding claims 2, 7, 12, 22: The substrate processing apparatus of Koji according to claim 1,wherein said first processing chamber comprises:
a liquid chemical processing chamber including said liquid chemical processing part: and a transport chamber 20 provided with said third opening, said transport chamber allowing transportation of substrates by said second transport mechanism, and
wherein atmospheres in said liquid chemical processing chamber and said transport chamber can be isolated from each other via the partition plate shown in Fig. 2.

Regarding claims 3, 8, 13, and 23: The substrate processing apparatus according to claim 2, wherein said liquid chemical processing part includes a plurality of liquid chemical baths 12,14 of Koji.

Regarding claims 4, 9, 14, and 24: The substrate processing apparatus according to claim 3,

wherein said liquid chemical processing chamber is divided into a plurality of liquid chemical process units including respective ones of said plurality of liquid chemical baths, and wherein atmospheres in said plurality of liquid chemical process units can be isolated from each other see the partition plates 16/25 of Koji.

Regarding claims 5, 10, 15, and 25 : Koji teaches an exhaust member 23 through which air is exhausted from said first and second processing chambers.

Koji fails to teach an inert gas supply member for supplying an inert gas to said first and second processing chambers.

Shinbara et al teaches the supply of inert gas in col. 10 lines 30-39. The motivation to provide a supply of inert gas is provided to dry the wafers. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to provide an inert gas supply as taught by Shinbara et al.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-Th during the hours of 8 a.m. and 4:30 p.m..

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 26, 2008

/Sylvia R MacArthur/
Primary Examiner, Art Unit 1792